

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF:

HIROAKI MATSUDA, ET AL.

: EXAMINER: CHRISTOPHER D. RODEE

SERIAL NO.: 10/086,683

: GROUP ART UNIT: 1756

FILED: MARCH 4, 2002 AUG 18 2004



FOR: CARRIER FOR DEVELOPER FOR DEVELOPING ELECTROSTATIC LATENT IMAGE, IMAGE FORMING METHOD USING SAME AND IMAGE FORMING APPARATUS USING SAME

DECLARATION UNDER 37 CFR 1.132

ASSISTANT COMMISSIONER FOR PATENTS

WASHINGTON, D.C. 20231

SIR:

Now comes Hiroaki Matsuda who deposes and states:

1. That I am a graduate of Tokyo University of Science, and received a Master degree in Science in the year of 1991.
2. That I have been employed by Ricoh Company Limited for 10 years as a researcher of Chemistry, and for 3 years as a member of Intellectual Property Department, Legal Division.
3. That I am an inventor in the above-identified application.
4. That I have read and understood US 5,849,448 Yoshino et al., which has been cited against the claims in the above-identified application.
5. That the carbon black disclosed in Yoshino et al. has a number average particle diameter of more than 0.1 μm . The reasons are set out in pages 2-3 that follow.
6. That the following additional experiment was conducted under my supervision on July 2, 2004.

Experiment:

Coating liquid A corresponding to the present invention and coating liquid B corresponding to Example 1 of Yoshino et al. were prepared as described follow, and thereafter the settling of carbon black was observed and the observation by an optical microscope was conducted on the prepared coating liquid A and B.

Preparation of Coating liquid A

600 g of toluene, and 3 g of carbon black BP-2000 (Cabot Cop.) were placed in a homomixer and were dispersed for 20 minutes at the jacket temperature of 35-40°C.

Preparation of Coating liquid B

280 g of toluene, and 3 g of carbon black BP-2000 (Cabot Cop.) were placed in a beaker of 500 ml and dispersed by using a stirrer for 10 minutes.

Settling of Carbon Black

30 ml of the prepared coating liquids A and B are respectively sampled and placed in a screw vial, and then the settling of carbon black was observed.

<Result>

Coating liquid A

The upper part of the liquid was clarified after 5 minutes.

Coating liquid B

The carbon black particles are completely settled within 1 minuet.

Optical microscope

The coating liquids A and B were observed by an optical microscope at a magnification of 1,000 times.

<Result>

Coating liquid A

Most of the observed particles were of submicron order.

Coating liquid B

Most of the observed particles were of micron order.

Conclusion:

In the coating liquid for a coating layer of carrier, as evidenced the above, the carbon black of Yoshino et al. has a larger average particle diameter.

In Example 1 of Yoshino et al., the coating liquid was mixed with ferrite particles and was stirred for another 30 minutes at 60°C in a kneader equipped with a vacuum deaerator. However, it is believed that no further dispersion of carbon black will occur in the kneader. As well known in the art, a surface irregularities of a ferrite particle are much larger than the carbon black, therefore the ferrite particles in the mixture do not acetate the dispersion of the carbon black. It is technically obvious that the carbon black did not further dispersed in the kneader.

Accordingly, the carbon black disclosed in Yoshino et al. has a number average particle diameter of more than 0.1 µm.

7. The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

8. Further deponent saith not.

Hiroaki Matsuda

Hiroaki Matsuda

July 28, 2004

Date